

REMARKS

Claims 44-58 and 69-76 are pending and stand as previously presented. Examiner Swiger is respectfully requested to reconsider the rejections of the claims in light of previous arguments made in this case as well as the remarks below.

Applicant's previous amendment, filed with the Request for Continued Examination on March 12, 2007, provided amendments to independent claims 44 and 53, and presented new independent claims 69 and 73, among others. In the present Office Action mailed May 29, 2007, Examiner Swiger repeated the rejections from the Office action mailed October 10, 2006 without addressing the amendments to claims 44 and 53 as well as many of the features of the new claims, all of which were provided in Applicant's previous response. Accordingly, Applicant respectfully requests Examiner Swiger to supplement the most recent Office Action by providing more information as to the rejections of the claims, specifically regarding the amendments to independent claims 44 and 53 and features of independent claims 69 and 73 not previously addressed.

Most notably with respect to independent claims 44, 53, 69 and 73, it is respectfully submitted that one of ordinary skill in the art, reading the Sherman and Morrison references without the benefit of the current specification, would not understand their parts characterized in the Office Actions as "grooves" to be such.

Respectfully, the Sherman reference does not include an indentation, channel, or anything else that one of ordinary skill in this art would consider a "groove." At best, point 36 in Sherman could be considered a transition from an upper opening part to a lower opening part, but neither part alone nor both of them together can be seen to form a groove as in the claims. The diameter of portion 36 is the same as the diameter of recess portion 35 where items 35 and 36 meet, and is

the same as the outer diameter (or root diameter) of the threaded section 37. Sherman states that recess portion 35 expands from a lower opening to the diameter of the recess portion 36 (see column 5, lines 23-30 and 58-60), and that the diameter of the recess portion 36 is slightly larger than the inner diameter (crest diameter) of the threaded portion 37 (see column 6, lines 50-52). It is clear that Sherman illustrates a device having a constant-diameter middle joining two ends. Applicant respectfully asserts that one of ordinary skill in the art would not consider Sherman's item 36 the "groove" of independent claims 44, 53, 69 and 73, as that term is generally known.

The Office Actions in this case have not specified what part of Morrison's receiver member 30 was considered to be a "groove," however Examiner Swiger asserted in the Advisory Action that the reference includes an interior groove at item 36. The number 36 indicates a tapered wall in the Morrison reference that secures the tapered washer in a taper-lock relationship. Surface 36 is inward of surfaces 35 and 37, and thus it cannot meet the plain meaning of "groove," e.g. a channel or depression, and it does not have a diameter greater than the adjacent wall, as discussed in the present application. Clearly there is no indentation in the wall in Morrison. Respectfully, one of ordinary skill who does not have knowledge of the current specification could not conclude that the Morrison reference has the "groove" recited in independent claims 44, 53, 69 and 73, and thus Morrison does not anticipate those claims.

Independent claims 44, 69 and 73 also recite a "retaining member" which occupies the groove. As Applicant has previously shown, Sherman's crown member 13 and Morrison's item 50 cannot reasonably be considered "retaining members," as recited in the claims of the present application. The crown member 13 of Sherman has an analog with the crown member 70 of the present application, which clearly has a different function from the claimed retaining member. In the present application, the crown member performs the same functions as the crown member

in Sherman, but it is the ring or other retaining member that holds the assembly together. In Sherman, the lower portion of the bore 34 keeps the bone screw in. Similarly, wedge member 50 of Morrison does not and cannot occupy an internal groove, as recited in the claims, or otherwise perform as the claimed retaining member. Respectfully, there is no basis for comparing the crown member 13 of Sherman or floating wedge member 50 of Morrison to the claimed retaining member.

Additionally, independent claim 44 was previously amended to recite that the outer dimension of the retaining member is larger than the diameter of the lower opening portion of the receiver member. Respectfully, this feature is not shown in the cited references. Specifically regarding the Morrison reference, neither item 50 nor item 40 of Morrison have an outer dimension *larger* than the diameter of the lower opening portion. The figures of Morrison show that item 50 has an outer diameter much smaller than the diameter of the lower opening portion and the item 40 has a diameter substantially equal to or slightly less than the diameter of the lower opening portion. For at least all the reasons given above, Applicant respectfully asserts that independent claims 44 and 53 are not anticipated by the Sherman and/or Morrison references. Claims 45-52 and 54-58 are dependent from one of those claims, and therefore also cannot be anticipated by Sherman and/or Morrison.

Independent claim 69 further recites that the groove includes upper and lower limiting surfaces. Looking to the Sherman reference and ignoring for the moment that item 36 is not a “groove” as the Examiner suggests, there is no *lower* limiting surface below item 36 as recited in the claim. Rather, surface 36 extends continuously downward into the recess area 35 of the receiver member. Turning to the Morrison reference and ignoring for the moment that its item 36 is not a “groove” as the Examiner suggested in the Advisory Action, there is no interpretation

of Morrison which reveals upper and lower limiting surfaces for the inner surface 36. As discussed in the Morrison specification, surface 36 is slightly angled at 4 degrees with an axis of the receiver member (column 6, lines 8-19). There is no limiting surface above surface 36, and the surface below surface 36 is an exit surface angled *outward* from the center of the receiver member, as best illustrated in Morrison's Fig. 2. Accordingly, there are no surfaces in Morrison which could be considered "limiting" with respect to surface 36. For at least all the reasons given above, Applicant respectfully asserts that independent claim 69 is not anticipated by the Sherman and/or Morrison references. Claims 70-72 are dependent from that independent claim, and therefore also cannot be anticipated by Sherman and/or Morrison.

Independent claim 73 also recites that the groove diameter is larger than the diameter of the lower opening portion. As argued above in connection with independent claim 44, the cited references do not satisfy this feature. Applicant respectfully asserts that independent claim 73 is not anticipated by either Sherman or Morrison. Additionally, dependent claims 73-76 are also patentable over the Sherman and/or Morrison references, at least based on their dependency from independent claim 73.

Claims 46 and 48 were rejected as allegedly obvious over a combination of the Sherman reference and U.S. Patent No. 6,090,111 to Nichols. Respectfully, this obviousness rejection should be withdrawn at least because incorporating the ring of Nichols into the Sherman reference would change the principle of operation of Sherman or would be less effective and therefore undesirable. Additionally, as presented above, Applicant respectfully asserts that independent claim 44 is patentable over the cited references, and thus dependent claims 46 and 48 are also patentable based on their dependency from allowable independent claim 44.

Nichols discloses a split ring 42 that sits above and out of contact with a bone screw head, while a rod contacts the screw head to fix the rod, “securement body” 16 and the bone screw. Sherman, on the other hand, requires its crown member 13 to float on top of the bone screw in order to provide the force transmission and frictional or mechanical connection that locks the Sherman device. Applicant maintains that importing the out-of-contact split ring of Nichols into Sherman would change the principle of operation of Sherman by removing the functions of its crown member 13. A loss of the “degree of security” touted in the Sherman specification would be considered undesirable to one of skill in the art. (See column 7, lines 38-46.) Thus, using the Nichols ring in place of the Sherman crown member would mean that the Sherman rod would directly contact the bone screw head at substantially one point, fundamentally changing the operation of the Sherman device and making it less desirable. Given at least the reasons above, one of ordinary skill would not find it obvious to combine Sherman and Nichols and the rejection of dependent claims 46 and 48 should be withdrawn.

The Office Action also rejected claims 54 and 57-58 as allegedly obvious over a combination of the Sherman reference and U.S. Patent No. 6,280,442 to Barker. This rejection should be withdrawn at least because this application claims priority to the Barker reference, and thus Barker is not prior art to this case, as Applicant respectfully pointed out to the Examiner in Applicant's previous response. Again, an amendment was made on March 23, 2006 to recite specifically the claim of priority to U.S. Patent Nos. 6,660,004 and 6,280,442. Further, in the event that that claim to benefit was deemed to be late, that paper included a request to consider it a petition under 37 C.F.R. 1.78(a)(3), an authorization to charge the appropriate fee for consideration of such a petition, and the statements relating to unintentional delay. Accordingly, Applicant respectfully submits that a proper claim to priority from U.S. Patent 6,280,442 has

been made, and consequently that patent to Barker may not be used as a reference against the present application.

Further, the arguments presented above with respect to the applicability of Sherman to independent claims 44, 53, 69 and 73 are equally applicable to claims 46, 48, 54 and 57-58. For at least the above reasons, the rejection of dependent claims 46, 48, 54 and 57-58 should be withdrawn.

It should be understood that the above remarks are not intended to provide an exhaustive basis for patentability or concede the basis for previous rejections. Applicants reserve the right to contest later positions taken by the Examiner that are not specifically addressed herein. None of the arguments made herein are intended to limit the literal or equivalent scope of the claims.

On receipt of this response, Examiner Swiger is respectfully requested to grant an interview to discuss the response with Applicant's counsel. It is believed that a brief discussion will significantly assist understanding and resolution of outstanding issues.

In conclusion, because the claims in this case are allowable over the references relied on in the pending Office Action for at least the above reasons, a Notice of Allowance in this case is respectfully solicited.

Respectfully submitted,

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